ABSTRACT OF THE DISCLOSURE

The present invention provides a microcomputer wherein in a system which needs to respond to events developed at intervals each shorter than an erase/program process time, erase/programming can be effected on an on-chip non-volatile memory as necessary during its processing. An erase and program control program for an electrically erasable and programmable non-volatile memory is configured inclusive of a loop of the application of a high voltage pulse and data verify or the like, for example. If a program jumped to a subroutine for an address specified by a user is programmed in advance during this loop, then a process by a CPU can be temporarily jumped to the subroutine for the user defined address. Thus, erase and programming can be effected on a system which needs to confirm internal and external events every predetermined intervals or a system with a learning function, or the like during the execution of a user program.